CLAIMS

1. A composition comprising a block polymer
encapsulating a functional material of a
predetermined function and a solvent, wherein a
property of the block polymer is changed in response
to a received stimulus, whereby the block polymer
encapsulating the functional material agglomerates
together.

2. The composition according to claim 1,
wherein the composition comprises micelles of the
block polymer encapsulating the functional material
of a predetermined function and a solvent, wherein
the property of the block polymer is changed in
response to the received stimulus, whereby the
micelles of the block polymer agglomerate together.

3. The composition according to claim 1,
wherein the block polymer is an AB, ABC or ABA block
polymer where A, B and C each represent a block
segment.

4. The composition according to claim 3,
wherein at least one of the block segments of the
block polymer has a vinyl ether structure.

5. The composition according to claim 1,

wherein the functional material of the predetermined function is a coloring material.

6. The composition according to claim 3, wherein at least one of the segments of the block polymer has an oxyalkylene structure at a side chain.

7. The composition according to claim 1, wherein the change of the property of the block polymer in response to the stimulus is a change from lyophilic to the lyophobic, or from lyophilic to lyophobic.

8. The composition according to claim 1, wherein the stimulus to the block polymer is at least one selected from the group consisting of a change in temperature, irradiation with an electromagnetic wave, a change in pH of the composition and a change in a concentration of the composition.

9. The composition according to claim 4, wherein at least one of the block segments of the block polymer has a vinyl ether structure expressed by the following General Formula (1):

General Formula (1)

$$—\!\!\!\leftarrow CH_2 - CH \rightarrow\!\!\!—$$
$$|$$
$$OR^1$$
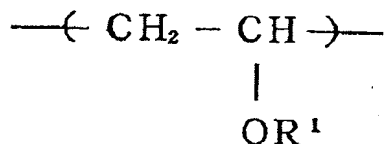
wherein R^1 is selected from the group consisting of a straight, branched or cyclic alkyl group having 1 to 18 carbon atoms, $-(CH(R^2)-CH(R^3)-O)_1-R^4$ and $-(CH_2)_m-$

5   $(O)_n-R^4$, and l and m are independently selected from integers of 1 to 12 and n is 0 or 1, and R^2 and R^3 are independently a hydrogen atom or CH_3, and R^4 is a hydrogen atom, a straight, branched or cyclic alkyl group having 1 to 6 carbon atoms, Ph, Pyr, Ph-Ph, Ph-

10   Pyr, $-CHO$, $-CH_2CHO$, $-CO-CH=CH_2$, $-CO-C(CH_3)=CH_2$ or CH_2COOR^5, and if R^4 is not a hydrogen atom, the hydrogen atom on the carbon atom may be replaced with a straight or branched alkyl group having 1 to 4 carbon atoms or F, Cl or Br, and the carbon atom in

15   the aromatic ring may be replaced with a nitrogen atom, and R^5 is a hydrogen atom or an alkyl group having 1 to 5 carbon atoms.

    10. The composition according to claim 1,

20   wherein a molecular weight distribution of the block polymer is 2.0 or less.

    11. The composition according to claim 1, wherein at least one of the segments of the block

polymer has a glass transition temperature of 20°C or lower.

12. A method for production of a composition comprising a block polymer encapsulating a functional material of a predetermined function and a solvent, wherein a property of the block polymer is changed in response to a stimulus, whereby the block polymer encapsulating the functional material agglomerates together, the method comprising the steps of:

completely dissolving the block polymer in a solvent; and

encapsulating the functional material with the block polymer by causing a change in a solvent environment.

13. The production method according to claim 12, wherein the change in the solvent environment is at least one selected from the group consisting of a change in temperature, irradiation with an electromagnetic wave, a change in pH of the composition and a change in a concentration of the composition.

14. An image formation method wherein an image is formed through a process that a composition comprising a block polymer encapsulating a functional

material of a predetermined function and a solvent is

applied to a medium, and a property of the block

polymer is changed in response to a received stimulus,

whereby the block polymer encapsulating the

5   functional material agglomerates together.

15. The image formation method according to

claim 14, wherein an image is formed on a medium

through a process in which the composition comprising

10   micelles of the block polymer encapsulating the

functional material of a predetermined function and

the solvent is applied to a medium, and the property

of the block polymer is changed in response to a

received stimulus, whereby the micelles composed of

15   the block polymer encapsulating the functional

material agglomerate together.

16. The image formation method according to

claim 14, wherein the stimulus is at least one

20   selected from the group consisting of a change in

temperature, irradiation with an electromagnetic wave,

a change in pH of the composition and a change in

concentration of the composition.

25   17. An image formation apparatus comprising

means for applying a composition to a medium to form

an image on the medium, wherein the composition

comprises a block polymer encapsulating a functional material of a predetermined function and a solvent, the composition undergoes a process in which a property of the block polymer is changed in response

5 to a received stimulus, whereby the block polymer encapsulating the functional material agglomerates together.

18. An image formation apparatus wherein the

10 image formation apparatus is used for using a composition containing a micelle composed of a block polymer encapsulating a functional material of a predetermined function and a solvent to form an image through a process in which a property of the block

15 polymer is changed in response to a stimulus, whereby the micelle composed of the block polymer encapsulating the functional material agglomerates together.

20   19. The image formation apparatus according to claim 17 wherein the stimulus is at least one selected from the group consisting of a change in temperature, irradiation with an electromagnetic wave, a change in pH of the composition and a change in

25 concentration of the composition.

20. The image formation method according to

claim 14, wherein the functional material of the predetermined function is a coloring material.

21. The image formation method according to claim 14, wherein the stimulus is a change in pH, and the size of particles in the composition comprising the block polymer encapsulating the functional material is increased by the change in pH, whereby an image is formed on a medium.